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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,580

12/30/2005

Nobuo Kimura

20241/0202878-US0

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01/22/2010

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EXAMINER

KATZ, VERA

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

01/22/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,580	Applicant(s) KIMURA ET AL.	
	Examiner Vera Katz	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/03/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,13-15,23-29,43,44,54-56,58,65 and 67 is/are pending in the application.
- 4a) Of the above claim(s) 54-56,58,65 and 67 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,13-15,23-29,43 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2, 13-15, 23-25 and 43-44 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Toki (WO2003-014022); the rejection below is based on its English language US national stage published application No. 2004/0197254. Toki teaches a dispersed ingredient, or a dispersoid having metal-oxygen bonds obtained by hydrolyzing or a partially hydrolyzing a metal alkoxide in the absence of all members selected from the group consisting of an acid, base and dispersion stabilizer. The choice of metal alkoxides listed in para [0043] meets the limitation of “at least three hydrolysable groups”. Toki further teaches that the metal compound is mixed with lower than 1 to less than 2 mol of water/mol of metal compound at the temperature lower than -20°C (which is below 0 °C) or 0.5 to less than 1 mol of water/mol of metal compound; [abstract]. These ranges

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overlap those of the claimed. Alternatively, it would have been obvious to one of ordinary skill in the art at the time of the invention, to select the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549. Furthermore, the dispersoid is optically transparent and provides the same spectral properties as those of the instant claims; [0040]. In addition, the recited steps of mixing a metal compound of claims 1-2, 13 and 23-24 are considered to be process limitation not affecting the structure of dispersoid. “[E]ven though product-by-process claims are limited by and defined by the process; determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”. (*In re Thorpe*, 227 USPQ 964,966).

Considering claim 15, Toki teaches that metal compound hydrolysis at -20°C and below; [0055].

Considering claim 23, Toki teaches an Example 11 that reads on the instant claim.

Considering claims 24-25, Toki teaches mixing a metal compound with a 1 to less than 2 mol/mol metal compound amounts of water and organic solvent at room temperature; [claims 33, 37 and 0053]. The organic solvent is a hydrocarbon other than alcohol and alcohol; [0075-0076, Examples 3, 5, 7 and 11].

Considering claims 43-44, Toki teaches a particle diameter or size distribution of 1- to 50 nm, or preferably 1 to 10 nm and, therefore, is considered to be monodispersed. As to spectral transmission recitation, see explanation immediately above. Additionally, the recited steps of dispersing are regarded to be process steps with no impact on structure of dispersoid as claimed.

2. Claims 27- 29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Toki (6235260). Toki teaches a dispersoid, having metal-oxygen bonds, for example, tin or indium oxide. Toki further discloses that dispersoid can be obtained in the absence of a multidentate stabilizer; [col. 4, line 2]. Toki teaches that the use of acid or base is optional; [col. 6, line 60-62 and claim 1 and 2]. Based on the aforesaid, it is considered that the dispersoid can be obtained in the absence of all members selected from acid, base and stabilizer. The dispersoid is obtained by mixing a metal compound having at least three hydrolysable groups. The water is added in divided portions to a metal compound, for instance, examples 27 to 42 teach that in the first step the water is added to the mixed separate solution of water-ethanol; the following step is mixing both metal compound solution and the water-ethanol solution. The temperature is -75 °C, which is below 0°C. This range overlaps that of the instant claim. Alternatively, it would have been obvious to one of ordinary skill in the art at the time of the invention, to select the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. The water is added in the amount of 0.6 mole/mole,

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which is within the range of the instant application. The step of admixing takes place at the temperature below 0°C; [col. 12, lines 49-58]. However, the recitations of steps of water addition of claims 27-29 are process step limitation that are not considered to provide structural limitations to the product.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toki (WO2003-014022); the rejection below is based on its English language US national stage published application No. 2004/0197254. As it was shown above, Toki teaches a dispersoid comprising a mixture of organic solvent of a hydrocarbon and an alcohol and further teaches that the concentration of water in a solvent is in a range of 5 to 30% of metal alkoxide, providing a rapid heat dissipation control and the ability to stir a fluid enough solution. It would have been obvious to one of ordinary skill in the art at the time the invention to adjust a water concentration range providing a rapid heat dissipation control and the ability to stir a fluid enough solution, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

4. Applicant's arguments filed 12/03/09 in response to the Office Action dated 09/10/09 have been fully considered.

5. In view of applicant's amendments and arguments, the applicant traverses the rejection of claims 24-25 under 35 U.S.C. 103(a) over Clark (48013990) in view of Toki (6235260). The arguments are convincing and the rejection is withdrawn.

6. In view of applicant's amendments and arguments, the applicant traverses the rejection of claims 1-2, 13-15, 23-25 and 43-44 under 35 U.S.C. 102(a)/103 over Toki (WO2003-014022). The applicant states that the reference is not available as a prior art under 102(a)/103. This argument is not convincing because the instant application and the reference has different inventive entity and therefore, is available as prior art under 102(a)/103. Therefore, for the reason stated above, the rejection of claims 1-2, 13-15, 23-25 and 43-44 under 35 U.S.C. 102(a)/103 over Toki (WO2003-014022) is maintained.

The applicant states, that Toki (6,235,260) teaches a presence of acid in all his examples, and therefore does not teach absence of acid. The Examiner respectfully disagrees. As it was shown in the rejection section, Toki discloses that dispersoid can be obtained in the absence of a stabilizer; [col. 4, line 2]. Though the working examples employ an acid addition, Toki teaches that the use of acid or base is optional; [col. 6,

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line 60-62 and claim 1 and 2]. Also, there is no presence of acid, base or stabilizer in the claims 1-3. Based on the aforesaid, it is considered that the dispersoid can be obtained in the absence of all members selected from the group of acid, base and stabilizer. As explained in the rejections, the applied prior teachings would be expected to arrive at the claimed limitations. Accordingly, the rejections of claims 27- 29 under 35 U.S.C. 102(b)/103(a) over Toki (6235260) are maintained.

7. The new ground of rejection, namely the rejection of claim 26 that depends on claim 24 based is necessitated by the amendment adding new limitation to claim 24.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vera Katz whose telephone number is (571)270-7082.

The examiner can normally be reached on M - Th 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JENNIFER McNEIL can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vera Katz/
Examiner, Art Unit 1794

/Jennifer McNeil/
Supervisory Patent Examiner, Art Unit 1794